



**New industrial policy and the role of executive agencies at the
subnational level**

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Introduction

Over the past three decades there has been a resurgence of interest in how industrial policy can help nations achieve higher levels of economic development (Rodrik 2005). Drawing on the experience of East Asian countries and their catching-up trajectories after the Second World War, authors such as Amsden (2001) or Rodrik (2005) identified the importance of heterodox government policies in creating incentives to innovation and technological development. They were deemed heterodox in comparison to the supposed consensus around supply-side approaches, epitomised by the ten prescriptions of the ‘Washington consensus’. These heterodox policies mostly involved supporting strategic sectors of economic activity through fiscal policy, subsidies for risky innovative activities and trade policy favouring national firms (Rodrik 2005). Crucially, they also involved mechanisms to prevent rent-seeking and cronyism, through the use of reciprocity mechanisms that forced firms who received support to meet developmental targets (Amsden 2001).

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Below the national level, there has also been an ongoing concern about strategies to address territorial inequalities through innovation, technological development and, in some contexts, the attempt to generate new areas of economic activity (Isaksen and Trippl 2016). The mechanisms available at this level are however different, because sub-national authorities do not tend to have the power to use fiscal or trade policy to such an extent that it can substantially affect incentives in the economy. The concept of smart specialisation (S3), which has become central to regional policy in the European Union, represents such an attempt to outline an industrial policy which can be implemented by regional or local authorities (McCann and Ortega-Argilés 2014). It purports that by building networks and eliciting information from a variety of stakeholders, including firms, chamber of commerce or Universities, it is possible to identify emergent sectors within a region, which could be targeted for investment and lead to a renewal of growth trajectories (Foray 2014). This strategy of building knowledge from the bottom-up about regional strengths is also expected to prevent a duplication of investments at the European level, by ensuring that regions specialise in the areas where they have the most potential (McCann and Ortega-Argilés 2014).

Within the debates on smart specialisation there have been multiple contributions about the best way to design and deliver effective strategies (Gianelli et al 2016). A relatively neglected area however has been the role of executive agencies in helping to build bridges between the public and private sector. Executive agencies include a variety of organisational forms (Verhoest et al 2012). In this paper we are referring to public or semi-public entities which help deliver industrial or innovation policy while remaining (formally at least) independent from the public sector. The importance of such agencies, and the scale and scope of their activities, has increased substantially over the past three to four decades, as a result of New Public Management reforms (Verhoest et al 2012). However, their

existence predates these reforms (Greve et al 1999, Wettenhall 2005). Some famous examples, such as the Tennessee Valley Authority, created in 1933 in the USA to help deal with some of the consequences of the Great Depression, still exist to this day and continue to inspire debates about the capacity of the state to deal with economic decline (Kline and Moretti 2014). The goal in this paper is to build on this debate by addressing the following research question: what is the role of executive authorities in managing and mobilising networks of actors within a region, and how does this affect their capacity to help implement successful innovation and industrial policy?

Empirically, this paper will review practical examples of subnational governments across Europe, drawing on regional reports prepared for an FP7 funded project. It will first discuss two case studies as practical examples of the role that executive agencies can play in innovation and economic development initiatives, before outlining some general conclusions based on a summary of findings from all the reports. This will then be used to draw some conclusions.

New industrial policy

As many authors agree, particularly those using more heterodox approaches to economic analysis, industrial policy is central to achieving technological development, long-term economic growth and high levels of income (Amsden 2001, Bell 2009, Hausmann and Rodrik 2003, Lundvall 2007, Rodrik 2005, Zanello et al 2015). One of the most fundamental channels through which the public sector influences these outcomes is through the incentives that it provides to economic agents. In turn the impact of those incentives is determined by their capacity to encourage investments in technology, particularly in new sectors of economic activity (Acs 2006, Cimoli et al 2009, Hausmann

and Rodrik 2003), and by the quality of the institutions providing them (Acemoglu and Robinson 2012).

The impact of these policies on entrepreneurship has been discussed for example by Hausmann and Rodrik (2003), building on the concept of self-discovery. These authors argue that before the comparative advantages of a country are revealed, entrepreneurs need to assume the risk of investing in new areas of activity. However, if these investments do lead to a new successful economic specialisation, the social returns will be far greater than what any individual economic agent can appropriate. This means that there is a disincentive for entrepreneurs to invest in new areas of activity, including the high costs of importing technology and adapting it, which can be compensated by government policies such as trade protection, export subsidies and government loans and guarantees. Importantly, the effectiveness of these policies is directly related to the quality of public institutions and the (Amsden 2001, Cimoli et al 2009, Hausman and Rodrik 2003) because otherwise they might lead to market distortions, for example encouraging firms to focus on the domestic market (as a result of trade protection) rather than on exporting, or distorting risk assessment for investments in technology and innovation (as a result of government loans and guarantees).

Institutions are defined here, following North (1990), as the ‘rules of the game’, or more formally as ‘humanly devised constraints’ (Hodgson 2006, North 1990), and are distinct from organisations, such as Universities, firms or technology transfer institutes. Their quality matters in this context both to avoid an excessive entry of new entrepreneurs in the market, which dilutes the value of new investments and hinders the accumulation of technological capabilities, and to avoid rent-seeking from established firms (Amsden 2001, Cimoli et al 2009, Hausman and Rodrik 2003). The discipline in the use of these incentives

is one of the main factors behind the success of the developmental state in East Asian countries, which was capable of creating a balance between protecting ‘national champions’ and forcing them to compete and innovate. According to Amsden (2001) this was due to a model of economic development based on a control mechanism which revolved around the principle of reciprocity, where businesses received subsidies and other forms of governmental support, but were in turn expected to compete in international markets. Also, recipients of subsidies were subjected to monitorable performance standards that were redistributive in nature and results-oriented. On the one hand this avoided rent-seeking behaviour. On the other hand, it allowed firms to accumulate technology, skills, and managerial capabilities to the point where they achieved productivity levels on par with those of firms in high-income countries.

Smart specialisation and executive agencies

The examples discussed in the previous paragraphs illuminate how, at the national level, governments can contribute to the emergence of new sectors of economic activity and stimulate the accumulation of knowledge and innovative capabilities. However, at the subnational level authorities often lack the tools to intervene in the economy to the same extent. This means that if regional governments want to stimulate growth, they have to adopt different strategies (McCann and Ortega-Argilés 2014). The concept of smart specialisation has recently emerged at the EU level as a tool for European regions to achieve this aim (Foray 2014). At its core is the notion of entrepreneurial discovery processes (EDP), which builds on the notion of self-discovery developed by Hausman and Rodrik (2003). The EDP is an iterative process designed to elicit information from different stakeholders (in the public and private sectors, Universities, research centres, etc.) about potential new areas of economic activity within a region. It is (in theory at least) an

inclusive and bottom-up process, which is useful at the stage of designing the strategy but should also remain as an open-ended communication channel that can help implementation (EC 2016).

As stressed by its supporters (Foray 2014, McCann and Ortega-Argilés 2014), the objective is not to pick winners but instead to stimulate regional organisations to find areas of activity that are emergent, yet complementary to those which already exist. The government could then support these new areas of economic activity by investing in horizontal technologies that would be accessible to entrepreneurs and existing firms, and by helping to generate the human, physical or legal infrastructures necessary to support this process. In order to achieve this, the state should become ‘embedded’ in civil society, rather than attempting to preside over it, but also rather than retreating from any sort of intervention (Morgan 2016).

Despite its ambitious character, questions remain about how these processes can be implemented in practice. In particular, what kind of governance mechanisms have to be in place to facilitate communication between different stakeholders, while also providing the necessary financial and human resources necessary to design and deliver significant policy investments? We will argue that in some of the European regions where this process has been most successfully implemented, executive agencies have been at the core of efforts to create inclusive and open-ended networks. They do this by performing two roles: in thick environments, populated by well-resourced and well-networked organisations delivering economic development and innovation policies, these agencies can act as bridging agents (Morgan 2016, Pringle et al 2011, Trippel et al 2015). They can do this due to their hybrid nature as both public entities and relatively independent organisations, which allows them to build networks that cross the public, private and third sectors that

can then be leveraged for strategic interventions (Dawley 2014). In thin environments, characterised by fragmented networks and-or a lack of organisations capable of delivering public policy, plus often affected by low quality of governance (Rodríguez-Pose and Di Cataldo 2014), these agencies can try to create or extend network dynamics, and help to build organisational capabilities in the public sector.

Their second role is as contributors to higher levels of capability in policymaking and policy implementation. Because they often operate on long-term cycles that go beyond electoral cycles, these agencies have the opportunity to learn and accumulate knowledge about a variety of instruments and policy approaches (Pringle et al 2011). This means that they can both increase the effectiveness of public policy but also inform politicians about previous results and help shape strategic decision making. As is obvious at this stage, the mere existence of executive agencies is not sufficient. They need a sufficient degree of independence and stability, including the capacity to hire highly qualified human capital, while also remaining responsive to democratic process. This in turn poses questions about their accountability but also about the normative implications of creating publicly owned organisations whose explicit aim is to serve business interests rather than the public good (Swyngedouw 2005). Both issues will be discussed in greater detail in the next section. Suffice it to say at this stage that there is sufficient evidence that a modern administrative state, with highly qualified individuals and relative independence from political interference, is important for the quality of public services (Fukuyama 2015, Rodríguez-Pose and Di Cataldo 2014). Though executive agencies operating in the area of economic development and innovation policy are merely a part of the state, making a small contribution to public sector activities, they can nonetheless have an impact on outcomes by contributing to a better institutional environment.

Before we discuss empirically what type of conditions have to be in place for them to perform these roles effectively, it is important to contextualise the place that executive agencies have occupied in policy making since their inception.

The history of executive agencies

The increasing use of executive agencies as a cornerstone of policy design and delivery is related to the diffusion of new public management theories (NPM), which has its roots in neoclassical economic approaches and public choice theory (Dubnick and Frederickson 2011, Lowery 1999). In summary, this perspective argues that the efficiency of governments is hindered by principal-agent problems, where both sides operate according to their own self-interest in a context of imperfect information. In public sector management, this would suggest that agents (politicians) would exploit public resources for their own benefit at the expense of the public good, whereas principals (members of the public) would try to get as many benefits as possible at the expense of others (Lowery 1999). NPM has also been influenced by the notion of bounded rationality and the limits it present for central planning strategies, as discussed by authors such as Hayek (1994).

NPM suggests broadly that in order to deal with these shortcomings, the solution is to introduce market mechanisms in the delivery of public policy. This means, generally, maintaining public services free at the point of delivery, while introducing competition, delegation of responsibilities and arm's length oversight in the process of delivering them (Dubnick and Frederickson 2011, Lowery 1999). This process, sometimes called 'agencification', has successfully spread to a variety of countries with different institutional environments, such as New Zealand, Japan or the Netherlands, and has been resilient to political, economic and social change (Elston 2014b, Thiel 2012). In practice it has meant a combination of privatisation of public resources, outsourcing of government

functions to private or third sector organisations and the retreat of the state from areas where the private sector can supposedly deliver better outcomes (Lowery 1999). The overall end result is sometimes called the extended state (Dubnick and Frederickson 2011), which refers to the existence, in any given country, of multiple layers responsible for delivering public services. These include centralised and decentralised authorities, public, private, third-sector organisations or public-private partnerships, which are either fully, partly or not at all funded by public resources. Additionally it includes a combination of different programmes and approaches to public policy, from grants, to competitive tendering to the direct allocation of resources.

Despite their recent rise to prominence, executive agencies have been in existence since before the dissemination of NPM (Greve et al 1999, Wettenhall 2005). Under a variety of names (Quangos, executive agencies, NGOs, etc.), and encompassing a significant assortment of scales and scope of activity, there have been private or semi-public organisations delivering all sort of public services. The latter included poverty alleviation services delivered through charities, or public transportation management through private agencies, practices that emerged in Denmark the 19th and early 20th centuries. They also included the quasi-independent boards created in the UK in the 17th and 18th centuries, to deliver services that were seen as not being within the realm of government, or the Arts Council created in 1946 (Greeve et al 1999). In contrast to the current period, where executive agencies are seen as outcomes of a neoclassical project, in previous times they were sometimes driven by what would be called today Keynesian or social-democratic principles, particularly when their goal was to address underdevelopment or territorial inequalities (Kline and Moretti 2014). They were as such decried by conservatives as evidence of excessive state intervention (Ekbladh 2002). This also justifies why Lowery (1999) argued that it was possible to build on this extended state to deliver a

‘neoprogressive’ research and policy agenda, which accepts the current organisational architecture, but ensures that it is driven by the intention of improving and reinforcing the welfare state.

In recent years there has been a general shift towards the consolidation of the ‘extended state’, through policies that aim to counter fragmentation in public bodies and highly complex oversight mechanisms (Dubnick and Frederickson 2011). The main reasons behind the second generation approaches relate to the perception that NPM reforms have led to overly complex institutional architectures, which lack accountability both to the government departments that are responsible for setting the policy priorities and to the public at large (Dubnick and Frederickson 2011, Elston 2014a). Given the original emphasis on performance enhancement through agency independence, this fear of diminished accountability became a major concern in several advanced nations. There are however no easy answers to this issue.

Authors such as Elston (2014a) and Talbot (2004) argued that improved transparency and accountability was in fact a key benefit of agencification, since by the publication of separate accounts and disaggregated performance data, agencies brought greater openness on costs, priorities and plans (Talbot 2004). On the other hand, several critics of the rise of governance approaches have argued that it does in fact reduce accountability, particularly in what regards its legitimacy (Dubnick and Frederickson 2011, Swyngedouw 2005). This is because by moving the policy making process and its deliberations to networks and organisations which do not correspond to traditional administrative jurisdictions, it is harder for the public to scrutinise the use of public funds and easier for special interests to capture public resources for private gain. In turn, Overman and Thiel (2016) find that the growth in the number of executive agencies has a negative impact on public sector outputs

and efficiency. However, their broad approach does not mean that agencies cannot provide a valuable contribution in specific national/regional contexts or policy arenas. These tensions will be reflected in the empirical discussion for this paper.

Case studies of selected European regions

This paper will now discuss empirical data regarding the governance of smart specialisation, and more broadly innovation and industrial policy, in several European regions. It will put a particular emphasis on the role played by executive agencies, in the context of their wider organisational environment. The data is taken from 16 regional reports written for an FP7 funded programme, SmartSpec, which analysed the implementation of smart specialisation strategies. The reports were written by academic experts who visited the regions and interviewed a wide range of stakeholders, using a common, semi-structured interview script. The summary of these efforts was published as a report (Trippel et al 2016). Among the 16 regions (see table 1), two were selected to be discussed in detail in this paper: Bremen in Germany and South Moravia in the Czech Republic. It has to be noted that the majority of the regions covered in these reports had previously offered themselves to be partners in the FP7 project that funded their execution. There is therefore a self-selection bias in the sample, with their pro-active desire to participate indicating that they already exhibit a relatively high-degree of institutional capability. Nonetheless, they represent a diverse set of contexts, covering a significant number of regions and countries in the EU.

Table 1 – Regions covered in the research project SmartSpec

Region	NUTS code	Country
Basilicata	NUTS 2 (IT F5)	Italy
Bremen	NUTS 2 (DE 50)	Germany
Flanders	NUTS 1 (BE 2)	Belgium
Great Plain Region	NUTS 2 (HU 32)	Hungary
Limburg	NUTS 2 (NL 42)	Netherlands
Lodzkie	NUTS 2 (PL 11)	Poland
More and Romsdal	NUTS3 (NO 053)	Norway
Murcia	NUTS 2 (ES 62)	Spain
Navarre	NUTS 2 (ES 22)	Spain
North East Romania	NUTS 2 (RO 21)	Romania
Northern Ireland	NUTS 1 (UK N0)	UK
Provence-Alpes-Cote d'Azur (PACA)	NUTS 2 (FR 82)	France
Scania	NUTS 3 (SE 224)	Sweden
Slovenia	NUTS 1 (SI 0)	Slovenia
South Moravia	NUTS 3 (CZ 064)	Czech Rep.
Tampere (Pirkanmaa)	NUTS 3 (FI 197)	Finland

Source (Tripl et al 2016)

The two regions chosen to be analysed in greater depth had two characteristics that justified their selection: first, each belongs to a different national context in terms of decentralisation (Hooghe et al 2008). Germany is a federal state, with a well established division of labour between the different levels of government, whereas the Czech Republic has very limited tradition of decentralisation and regional government. Nonetheless, in South Moravia the

local authorities were capable of creating a certain degree of autonomy through good management and political stability. Therefore each example provides different lessons. The second reason is that both regions were identified as implementing good practices in the design of their smart specialisation strategy and in their implementation of innovation policies in recent years (Tripl et al 2016). They will be used here primarily as practical examples that serve to illustrate the main findings drawn from a summary of the regional reports.

Case study: Bremen, Germany

As a federal state, Germany has a significant degree of political, financial and administrative decentralisation including responsibilities for regional innovation policies. In Bremen the strategies for economic development activities were coordinated, at the time of this research project, by the Senator for Economic Affairs, Labour and Ports (in the German city-state of Bremen the counterpart for ministry is senator) as well as the Senator for Education and Science. At the operational level, the key organisations were the Agency for Economic Development (WFB) and the Bremerhavener Society for Investment Support and City Development (BIS). These two executive agencies were responsible for the delivery of nearly all innovation and economic development related policy programmes in Bremen. These two levels (strategic and operational) were coordinated both horizontally – at the level of the senators via various task forces and working groups – and vertically - between the senators, downstream agencies/institutions and the organisations responsible for the implementation of a specific policy initiative. External expertise in the shape of monitoring exercises, consultancy and other strategy supporting initiatives was also common.

These multiple connections existed in the context of a region with one of the highest levels of quality of government in Europe (Charron et al 2013), which again points to the argument made earlier that the mere existence of agencies is not sufficient. They have to be framed by an appropriate institutional environment. According to the report produced for this region, the quality of government in Bremen was helped by the small size of its territory, which allowed for the development of strong personal links between disparate actors. Beyond the public sector, the region also benefited from a high degree of interlinkages and co-operation among the universities and non-university research institutes and, though to a lesser extent, with the business sector. Furthermore, among other things, it exhibited a significant rate of regional technology transfer, a strong interdisciplinarity among its research facilities, high third party funding rates and a systematic support of junior scientists. Taken as a whole, the role of the government, primarily through its executive agencies, was to act as a mediator and help in the development of projects, without necessarily having to resort to large investments.

In terms of the design of the smart specialisation strategy, and previous innovation policies, the executive agencies for Bremen and Bremerhaven had indeed played a central role. They did this by relying on their formal and informal networks with the regional government, other public authorities, businesses, business representatives, Universities and consultants. Within the organisations themselves, the option had been to rely on a cluster approach, which was already in place, and build on it to continue to focus on aerospace, offshore wind energy and logistics (the latter connected to activity in the Bremerhaven port, the largest German port for automobile exports). From a practical point of view, this approach was based on the existence of cluster managers, who were responsible for engaging with the private sector in their area of activity, helping businesses access policy instruments, and acted as mediators between different partners. They were assisted in their work by

part-time consultants, who were individuals that retired from the private sector, and that contributed with their business networks and their specialist knowledge. Finally, the WFB had other human resources to deal with sectors such as the creative industries, with whom they also maintained regular contacts and which had been identified as a cross-cutting sector contributing to the rest of the economy.

The main complaint to their strategy design came from representatives of firms or organisations that were not linked to the three main clusters. According to several interviewees, the WFB and BIS had much closer relationships with sectors dominated by a small number of large firms, which were more effective at lobbying. This was not the case in sectors such as the creative industries or ICT, dominated by SMEs and more fragmented in terms of their interests and strategic engagement with policymakers. This discrepancy was seen as one of the main impediments to the design of a strategy that would be more focused on new economic paths, rather than on reinforcing old paths. Even though there was some recognition by policy makers that this was an issue, it was not clear what mechanisms were being put in place to deal with its consequences.

An example of how this mediating role had an effect on regional innovation, was the flagship project EcoMat, a research centre specialised in advanced materials, which the WFB was promoting as part of its smart specialisation strategy. The idea for EcoMat was initially floated within the local branch of Airbus, who wanted to create a platform to bring together its engineers working in advanced materials. After considering the option of developing this project internally, the company concluded that the risks and costs were too high and that the project was not commercially viable. Through their regular contacts with representatives from the WFB, a member of Airbus presented this idea to the regional development agency in order to get their support.

The WFB agreed to support the project, under the condition that it would be open to the participation of other organisations. In practice, the regional development agency would be responsible for the construction of a purpose built space, which would house the Airbus Platform, researchers from IFAM, the Fraunhofer Institute located in Bremen and specialised in advanced materials, and researchers from other research institutes in Germany. As a result of this project, Mercedes, who own an assembly plant in the regions employing 15000 people directly, has also for the first time agreed to engage with the local innovation system, due to their interest in the research that will happen at EcoMat. Plus the centre had also attracted interest from firms in the offshore wind-energy sector located in Bremerhaven, and from SMEs operating in the aerospace and related industries. Though the stated goal was to have an applied-research centre that could work on issues depending on the interests of its constituent organisations, the expectation of the WFB was that by bringing together researchers working in different economic sectors, there would be opportunities for the emergence of new areas of activity.

In terms of its stability and interdependence from election cycles, the policy makers operating at the senate level interviewed for this report, argued that there was a formal division of competencies between the regional ministry, the WFB and BIS, which granted the latter a certain degree of autonomy. However, interviewees working for the agencies suggested that their independence was not always respected, which indicated that there were tensions between the different levels of administration.

Case study: South Moravia, Czech Republic

In the Czech Republic, like in several other central and eastern European (CEE) countries, the tradition of decentralisation is fairly recent and still in a state of flux. In the Czech case, its 14 regional authorities were created in 1997, but their competencies remained limited (Hooghe et al 2008). Regarding innovation and economic development strategies, the national government continued to be the main institution in terms of defining strategies and guidelines, though implementation was decentralised to the regional scale. Many regions exhibited low levels of competence, with South Moravia having one of the highest levels of quality of governance in this national context. The quality of its governance system was due to a combination of factors, which led it to become one of the leading regions in the Czech Republic in terms of its capacity to implement bottom-up consultative processes and adopting a pro-active approach to economic development and innovation initiatives.

According to researchers, the first impulse happened in 2001 when, after the decision of a major investor (Flextronics) to close its regional branch, representatives of Brno city, of the South Moravian Region and other stakeholders decided to come together in an effort to focus investments in the region. As a result, a series of innovation strategies had been approved, with the current smart specialisation strategy constituting the fourth generation of innovation policy. Immediately as a result of the first innovation strategy, approved in 2002 and developed by the Regional Development Agency, the region created the main executive agency for this area, the South Moravian Innovation Centre (JIC). JIC helped contribute to an increasing awareness and political will to implement actions around this theme. Since then, benefiting from continued financial support from regional authorities coupled with a degree of independence that is not common in this national context, the agency had been at the core of all subsequent strategies.

The second strategy, approved in 2005, selected as its priorities the support for small and medium-sized enterprises through the provision of infrastructure, financial support and advice about policy instruments. It also aimed to improve the connection between stakeholders and to support the transfer of knowledge between universities and the private sector. Biotechnology, IT and engineering were the major sector. For the third generation of innovation policy, the major change consisted in the use of a different methodology, which attempted to identify the innovation demand of firms in the South Moravian Region. This was done through consultation with Universities and the private sector and resulted in the identification of horizontal and vertical priorities. The former included a strengthening of technological transfer, the provision of services to firms, better human resources and support for internationalisation activities. Vertically, the strategy identified four areas of activity, classified as engineering, electrical engineering, IT and life sciences. This methodology was repeated and expanded for the elaboration of the smart specialisation strategy in 2014, following EU guidelines, which constitutes the fourth innovation strategy. The JIC coordinated a broad consultation of stakeholders in the educational, research and innovation arenas in the region, from both the private and public sectors in order to identify priorities for investment. The fact that JIC was capable of conducting such a broad consultation process is itself a sign of its successful integration with the regional innovation system. The Czech Republic, similar to other EEC countries, exhibits very low levels of trust, especially in what concerns trust of business owners towards the state. Bottom-up consultations are therefore difficult to implement, since individuals are often reluctant to speak with public officials. Though its success in implementing innovation strategies might be less pronounced than for example in the case of Bremen, the JIC had been able to start building networks as a result of its hybrid status as an independent public entity. This had contributed to South Moravia being seen as a

benchmark region in this area of activity, within both the Czech Republic and internationally (Gianelle et al 2016).

The INTEMAC competence centre was an example of how these efforts had generated potentially valuable outcomes. This centre provided expert services and comprehensive solutions for the manufacturers and users of machine tools, a sector in which South Moravia had accumulated expertise, both in its production and in its development. By creating a platform with both engineering firms and academic research teams, the aim was to address both the immediate and medium to long-term needs of firms in this sector. Importantly, its creation resulted from bottom-up consultations, and involved the cooperation between JIC, the University of Technology in Brno and some prominent engineering firms. Its financing was entirely supported by regional authorities. According to local actors, it was a successful and competitive entity, with self-financing mechanisms. Its establishment had helped to upgrade the research and development capabilities and the quality of the human capital in the machine tools industry in this region. It has also contributed to the creation or maintenance of research jobs in the academic sector and to improve University-business interactions, in a context where they tend to be limited.

Despite the capacity of the regional public sector to create a well-functioning executive agency, it still operated within an unstable and highly politicised national environment. This had implications for the design of innovation strategies, particularly in what concerned the capacity to make bold decisions with high levels of risk. Political instability at the national level, and the high levels of influence that individual politicians have on policy, made public entities risk averse, especially when this risk would involve some form of medium to long-term planning. At the micro level, firms themselves adopted a cautious approach in their interactions with the public sector, in part due to low levels of

interpersonal trust (as previously mentioned) but also because there was limited confidence in the capacity of the state to deliver in the future on current promises. The outcome in this particular context had been the insistence on wide-ranging consultation processes, which appeared to be more inclusive than for example the ones in Bremen, as a way to legitimise public policy interventions. Though this had advantages in terms of inclusiveness, it also encouraged regional authorities to adopt more conservative policy approaches, which reinforced current specialisations but failed to identify new potential areas of activity. Though they are just one example, the contrast between EcoMat in Bremen, with its potential for sectoral crossover, and INTEMAC, which focuses on strengthening one sector, is indicative of the different types of initiatives made possible by each institutional environment.

Comparative analysis of governance structures

Drawing on the previous examples, but also on a summary of results from 16 regional reports (Trippel et al 2016), it is possible to identify a few commonalities between the best performing EU regions, in terms of their capacity to design and implement innovation policies, and the role that executive agencies play in these processes. Their governance model, as summarised in figure 1, normally includes a strategic decision making layer, which is the one directly controlled by elected politicians, a layer of independent delivery organisations (executive agencies) and a network of stakeholders from the private, public and third sectors. In general, each organisation belonging to the first two layers has a mandate to deliver a specific set of functions and is (at least formally) independent from each other. However they tended to operate in a system where coordination was encouraged and appreciated, which guaranteed a certain amount of cohesiveness to the system.

Figure 1 about here

The first layer of strategic decision-making usually benefited from political stability. Of course stability by itself was not sufficient, since in some contexts it might mean the control of the state apparatus by one political party, for instance through patronage networks. The second layer is the primary concern of this paper. The most successful executive agencies in these case studies were those that had been in place for a certain amount of time (10 years or plus, in general), which had allowed them to accumulate knowledge and experience of running policy instruments. They also tended to have flexibility to hire qualified human resources, which meant a certain degree of freedom from political interference in this arena (though there were different degrees of autonomy in this regard, even amongst the most advanced regions). Finally, the third layer benefited from the existence of high-quality organisations. A good example among the most effective business associations were the chambers of commerce in Germany, where membership is compulsory to all businesses, which ensures effective representation. When the different elements from each layer work in coordination with each other, over a significant amount of time, the system achieves a balance between ensuring that power is not overly concentrated in one layer or organisation (lock-in), while ensuring sufficient coordination.

Based on these various elements, we can identify two main functions of executive agencies. One is to act as the aggregators of knowledge and experience that allow them to manage and implement policy instruments. Of course, this does not deny that there are constant tensions between their degree of independence and political interference. The case of Navarre, in Spain, provides an interesting illustration of this tension. The election in 2015 of a government supported by new political parties (including *Podemos*, the

grassroots left-wing political party that emerged out of street protests in 2014), after years of domination by the two main parties, led to a change in the name and scope of activities of the executive agency responsible for industrial policy. This is because it was identified with the previous regime. The new government also intended to change the smart specialisation strategy significantly, which was considered too restrictive in terms of the sectors prioritised for investment. However, after discussion with employees of the agency (which mostly remained the same, despite the new name), it was decided that the strategy would witness only minor alterations. What this episode shows is both how agencies are vulnerable to political change, but at the same time how even in uncertain environments they can provide some level of continuity, due to the accumulation of experience and skills.

Their second function is as network managers. It has often been noticed that the institutional distance between public and private sector representatives can hinder collaboration between both. The same is true for University-business interactions. By institutional distance we are referring here to the different goals, processes and strategies (or more generally, organisational cultures) that are dominant in each of these entities. Executive agencies are well positioned to act as mediators or brokers between these different organisations due to their hybrid characteristics. As public entities, they are required to understand the logic and requirements of public sector and learn to navigate them. At the same time, due to their independence from the latter, employees are allowed to develop strong working relationships with external partners. This allows them better to deal with the specific requirements and organisational logics of private companies or Universities, for instance. They can do this by learning about the specifics of certain sectors or by building personal connections that allow them to achieve social proximity and facilitate the exchange of information.

Conclusions

The summaries of best practice among 16 European regions, and the details presented for Bremen and South Moravia indicate that well designed industrial policy is the result of a laborious process of developing and maintaining capacity. This capacity must exist in the public, private and third-sectors and be sustained by regular interaction between all. Crucially, this discussion highlighted the importance of executive agencies as hybrid organisations that can help build a coherent and integrated system. By functioning as repositories of policymaking knowledge and mediators of stakeholder relationships they perform a crucial role as animators but also as a source of stability.

These examples also suggest that the issue of accountability is significantly complex, and strongly shaped by the wider institutional and economic environment. The existence of well organised lobby organisations, the maturity and closeness of existing networks, the transparency of public-private partnerships, or the degree of political influence on the allocation of public resources, all contribute to the level of accountability. This brings us back to an argument made throughout this paper, which is that executive agencies by themselves signify very little, unless one understands how they actually operate, rather than how they are expected to perform. Similar points had been made for example in the UK context. Authors such as Elston (2014a, 2014b) and Talbot (2004) argued that improved transparency and accountability was in fact a key benefit of agencification, which brought greater openness on costs, priorities and plans. In fact, the shortcomings of agencies appeared to result largely from the failure of governments to provide clearer guidelines for their creation and management, and to devise better accountability mechanisms. One of the consequences of the latter is that according to James et al (2015), also referring to the UK context, politics had trumped performance when it came to

explaining the survival of executive agencies between 1989 and 2012. The case studies discussed here also illuminate how the capture of the state by interest groups is a function of the overall quality of the institutional environment, rather than the particular organisational form of the extended state.

Finally, it has to be emphasised that this paper does not address the issue of causality. The success of the most advanced European regions might be a product of the quality of their innovation systems but it is also the product of long-term structural forces, which have led to the concentration of high-value economic activities in their territories (Pringle et al 2011). We would therefore suggest that governance and economic development evolve together, at least when considering short-time frames. Nonetheless, it can be argued that a regional government can improve the quality of its institutions and its industrial policy, but it cannot change significantly the structural factors affecting economic growth and decline on a global scale, at least not by itself. Therefore, when presented with these two co-evolving dimensions (governance and economic structure), only the first is the direct and immediate responsibility of a regional authority, which is a good argument to justify prioritising it as an arena for intervention. This argument was also put forward by Rodríguez-Pose and Di Cataldo (2015), who argued that improving the quality of governance would be the most effective innovation policy in the peripheral regions of Europe.

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